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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,602

07/07/2005

Kosuke Fujiwara

14434-80USWO

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02/28/2008

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EXAMINER

PARVINI, PEGAH

ART UNIT

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1793

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,602	<b>Applicant(s)</b> FUJIWARA ET AL.	
	<b>Examiner</b> PEGAH PARVINI	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20051005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-14, drawn to the glass flake composition.

Group II, claim(s) 15, drawn to a resin composition comprising said glass flake composition.

Group III, claim(s) 16, drawn to a paint composition comprising said glass flake composition.

Group IV, claim(s) 17, drawn to a cosmetic product comprising said glass flake composition.

Group V, claim(s) 18-21, drawn to a method of manufacturing said glass flake.

The inventions listed as Groups I, II, III, IV, and V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: US Patent Application No. 2001/0021685 in view of US Patent No. 5,753,371 disclose a glass composition comprising transition metal oxide (Sakaguchi et al. abstract; [0008], [0019]) having a high visible light transmission of 70% or more (Sakaguchi et al. [0052]) with consideration that Sullivan et al. drawn to glass flakes having a layer comprising titanium dioxide or iron oxide thereon, teach glass flakes comprising SiO<sub>2</sub>, NaO, K<sub>2</sub>O, FeO/Fe<sub>2</sub>O<sub>3</sub>, and many other components as that disclosed by Sakaguchi et al. (Abstract; column 2, lines 22-67). Therefore, since the limitations of claims fail to define a contribution over US Patent Application No. 2001/0021685 in view of US Patent No. 5,753,371, it fails to constitute a special technical feature and hence there is lack of unity between the cited claims.

During a telephone conversation with Mr. Douglas Mueller on February 26, 2008 a provisional election was made with traverse to prosecute the invention of Group I,

claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not

commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The interpretation of the claims language suggests that glass flakes comprises metal oxide crystals; however, as it is well settled in the art, glasses cannot have crystals. Therefore, the claims are indefinite.

### ***Claim Rejections - 35 USC § 103***

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2001/0021685 to Sakaguchi et al. in view of US Patent No. 5,753,371 to Sullivan et al.

7. Regarding claim 1, Sakaguchi et al. disclose a glass composition comprising transition metal oxide (Abstract; [0008], [0019]). The reference, further, discloses that said glass has a high visible light transmission of 70% or more ([0052]).

Sakaguchi et al., however, is silent to forming said glass into flakes.

Sullivan et al. drawn to glass flakes having a layer comprising titanium dioxide or iron oxide thereon, teach glass flakes comprising SiO<sub>2</sub>, NaO, K<sub>2</sub>O, FeO/Fe<sub>2</sub>O<sub>3</sub>, and many other components as that disclosed by Sakaguchi et al. (Abstract; column 2, lines 22-67).

It would have been obvious, at the time of the invention, to have formed the glass composition as that taught by Sakaguchi et al. into flake form motivated by the fact that Sullivan et al., also drawn to the glass flakes, disclose a very similar composition for their glass and, further, expressly disclose that glass flakes are very resilient and can be optically attractive as well (column 2).

With reference to the visible light transmittance, it is noted that there is overlapping ranges of transmission between the reference and the instant invention. As indicated by MPEP, overlapping ranges have been held to establish *prima facie* obviousness. See MPEP § 2144.05.

8. Regarding claims 2 and 4, the glass composition as that taught by Sakaguchi et al. contains SiO<sub>2</sub> as well as 0.02% or more total iron oxide (T-Fe<sub>2</sub>O<sub>3</sub>) in terms of Fe<sub>2</sub>O<sub>3</sub> ([0008], [0010]). Furthermore, the reference discloses an amount of Na<sub>2</sub>O and K<sub>2</sub>O in said glass composition ([0015], [0017]).

It is noted that there is overlapping ranges of iron oxide content with the instant application; overlapping ranges have been held to establish *prima facie* obviousness. MPEP § 2144.05.

It is well settled in the art that iron is a transition metal element.

9. Regarding claims 3 and 5, Sakaguchi et al. expressly disclose an amount of 65 to 80% by weight of SiO<sub>2</sub>, 10 to 18% by weight Na<sub>2</sub>O, 0 to 5% by weight of K<sub>2</sub>O, 10 to 20% by weight Na<sub>2</sub>O+K<sub>2</sub>O, 0 to 10% by weight MgO, 5 to 15% by weight CaO ([0010]-[0023]). Furthermore, as noted above, there is 0.02% by weight or more total iron oxide (T-Fe<sub>2</sub>O<sub>3</sub>) in terms of Fe<sub>2</sub>O<sub>3</sub>.

10. Regarding claims 6 and 7, Sakaguchi et al. expressly disclose an amount of 65 to 80% by weight of SiO<sub>2</sub>, 10 to 18% by weight Na<sub>2</sub>O, 0 to 5% by weight of K<sub>2</sub>O, 10 to

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20% by weight  $\text{Na}_2\text{O}+\text{K}_2\text{O}$ , 0 to 10% by weight  $\text{MgO}$ , 5 to 15% by weight  $\text{CaO}$ , 0 to 1.0% by weight of  $\text{TiO}_2$  ([0010]-[0023]). Furthermore, as noted above, there is 0.02% by weight or more total iron oxide (T- $\text{Fe}_2\text{O}_3$ ) in terms of  $\text{Fe}_2\text{O}_3$ .

11. Regarding claims 10 and 11, Sakaguchi et al. disclose 0.02% by weight or more total iron oxide (T- $\text{Fe}_2\text{O}_3$ ) in terms of  $\text{Fe}_2\text{O}_3$  (Abstract; [0019]). As stated by MPEP, overlapping ranges have been held to establish *prima facie* obviousness; it is, further, noted that there is overlapping ranges of the total iron oxide content in the disclosed reference (0.02% by weight or more) with in the instant application. Therefore, it would have been obvious to have selected from the overlapping portion of the range motivated by the fact that overlapping ranges have been held to establish *prima facie* obviousness. See MPEP § 2144.05.

12. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Sullivan et al. and in further view of JP05017710 to Fujita et al.

13. Regarding claims 12 and 13, Sakaguchi et al. in view of Sullivan et al. teach glass flakes composition having a visible-light transmission of 70% or more which has overlapping ranges with 85% or lower as claimed in the instant application.



Although the references disclose the use of metal oxides in the glass flakes, they do not expressly disclose the use of said oxides or any metal as claimed in instant claim 13, in a coating covering said glass flakes.

Fujita et al., drawn to paint composition, disclose successively coating the surface of a glass flake with silver and nickel to obtain flaky particles as metallic pigment (Abstract; [0004], [0020]).

Thus, it would have been obvious to one of ordinary skill in the art to have modified Sakaguchi et al. in view of Sullivan et al. in order to include a surface coating of a metal such as silver and nickel as that taught by Fujita et al. motivated by the fact that each metal, silver and nickel, provide a specific tone to the paint such as silver tone and dark tone which would result in a desirable medium tone; furthermore, this coating on the glass flake will exhibit strong glitter effect (Abstract).

14. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. in view of Sullivan et al. and in further view of US Patent No. 3,331,699 to Marshall et al.

15. Regarding claims 12 and 14, Sakaguchi et al. in view of Sullivan et al. teach glass flakes composition having a visible-light transmission of 70% or more which has overlapping ranges with 85% or lower as claimed in the instant application.

Although the references disclose the use of metal oxides in the glass flakes, they do not expressly disclose the use of said oxides in a coating covering said glass flakes.

Marshall et al. teach coating metal oxides such as zirconium dioxide, chromium oxide and the like, especially titanium dioxide on the glass flakes to provide improved sparkle and intense interference colors (column 2, lines 42-65; column 13, lines 64-75; column 14, lines 1-11).

Thus, it would have been obvious to one ordinary skill in the art to modify Sakaguchi et al. in view of Sullivan et al. in order to expressly disclose coating glass flakes with metal oxides as that taught by Marshall et al. motivated by the fact that such coatings provide improved effects on the glass flakes (column 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael A Marcheschi/  
Primary Examiner, Art Unit 1793

/P. P./  
Examiner, Art Unit 1793